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To:	From:
Examiner David England	Syed Jafar Ali (Reg. No. 58,780)

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Re:	Your Reference Number
Proposed Amendment	Application Serial No. 09/577,232

☐ URGENT   ☑ FOR REVIEW   ☑ PLEASE REPLY

Dear Examiner England,

Please find attached a Proposed Amendment for U.S. Patent Application Serial No. 09/577,232, which includes proposed claim amendments based on our discussion earlier today. Please let us know whether the attached Proposed Amendment is acceptable, and we will then file the terminal disclaimer.

Thank you for your assistance in advancing the prosecution of this application. If you need anything further from us in the meantime, please do not hesitate to contact us. Otherwise, we will look forward to your comments regarding the attached Proposed Amendment.

Best regards,

Jafar Ali

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT :	Lundy LEWIS	CONFIRMATION No. :	3633
SERIAL NUMBER :	09/577,232	EXAMINER :	David E. England
FILING DATE :	May 23, 2000	ART UNIT :	2443
FOR :	METHOD AND APPARATUS FOR SERVICE ANALYSIS IN SERVICE LEVEL MANAGEMENT (SLM)		

PROPOSED AMENDMENT

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Further to the telephonic discussion with the Examiner on **October 26, 2009**, the Examiner is hereby authorized to amend the above-identified application as follows:

Amendments to the Claims begin on page <u>2</u> of this paper.

Remarks/Arguments begin on page <u>13</u> of this paper.

It is not believed that extensions of time or fees for net addition of claims are required beyond those that may otherwise be provided for in documents accompanying this paper. However, if additional extensions of time are necessary to prevent abandonment of this application, then such extensions of time are hereby petitioned for under 37 C.F.R. § 1.136(a), and any fees required therefore (including fees for net addition of claims) are hereby authorized to be charged to our Deposit Account No. 033975 (**Ref. No. 019287-0317258**).

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PROPOSED AMENDMENT

Proposed Claim Amendments: The Examiner is hereby authorized to replace all prior versions and listings of claims with the following proposed listing of claims.

PROPOSED LISTING OF CLAIMS:

1-30.   **(Cancelled)**

31.   **(Proposed Amended)**   A method of providing service analysis in service level management, comprising:

providing a service over a network having a plurality of network components that support the service, wherein performance of the service depends upon performances of the plurality of network components that support the service, and wherein the service has a state that represents the performance of the service;

measuring a plurality of component parameters for the plurality of network components that support the service across a plurality of domains of the network, wherein the plurality of component parameters measure performances of the plurality of network components that support the service;

determining the state of the service from the plurality of ~~measured~~ component parameters measured across the plurality of domains of the network, wherein determining the state of the service includes mapping the plurality of ~~measured~~ component parameters measured across the plurality of domains of the network to a service parameter that represents the state of the service, and wherein the state of the service indicates whether the service conforms to an agreed upon service level identified in a service level agreement; ~~and~~

executing one or more data mining algorithms ~~that~~ to discover a respective ~~influences~~ influence that a first one ~~each~~ of the ~~plurality of~~ measured component parameters in a first domain of the plurality of domains of the network has ~~have~~ on the service parameter~~, wherein the respective influences represent relationships between the state of the service and the plurality of network components that support the service~~;

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executing the one or more data mining algorithms to discover a respective influence that a second one of the measured component parameters in a second domain of the plurality of domains of the network has on the service parameter:

identifying one of the first component parameter or the second component parameter that has a greatest influence on the service parameter based on the respective influences that the first component parameter and the second component parameter have on the service parameter; and

designating the identified component parameter to be the service parameter.

32-33. **(Cancelled)**

34.   **(Previously Presented)**   The method of claim 31, wherein the service parameter represents one or more of a response time for one or more of the plurality of network components, traffic congestion in a selected portion of the network, availability for one or more of the plurality of network components, reliability for one or more of the plurality of network components, security for one or more of the plurality of network components, performance for one or more of the plurality of network components, or a configuration for one or more of the plurality of network components.

35.   **(Previously Presented)**   The method of claim 31, wherein a plurality of monitoring agents are configured to measure the plurality of component parameters for the plurality of network components that support the service.

36.   **(Proposed Amended)**   The method of claim 35, wherein each of the plurality of monitoring agents are configured to measure a subset of the plurality of component parameters In a respective domain of [[a]] the plurality of domains of the network.

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37.   (**Proposed Amended**) The method of claim 31, further comprising integrating the plurality of domains into a service level management domain that comprises a [[a]] hierarchical structure for the plurality of domains.

38.   (**Cancelled**)

39.   (**Proposed Amended**) The method of claim 31, <u>wherein designating the identified</u> <u>component parameter to be the service parameter includes</u> ~~further comprising~~:

        designating <u>the</u> [[a]] first ~~one of the plurality of~~ component <u>parameter</u> ~~parameters~~ to be the service parameter[[;]]

        ~~analyzing~~ <u>in response to determining that</u> the respective ~~influences~~ <u>influence</u> that ~~each of~~ the <u>first</u> ~~plurality of measured~~ component <u>parameter has</u> ~~parameters have~~ on the service parameter <u>is greater than</u> ~~to manage the service; and~~

        ~~designating a second one of the plurality of component parameters to be the service~~ ~~parameter in response to analyzing~~ the respective ~~influences~~ <u>influence</u> that the <u>second</u> ~~plurality of measured~~ component ~~parameters have~~ <u>parameter has</u> on the service parameter.

40.   (**Cancelled**)

41.   (**Proposed Amended**) The method of claim [[39]] <u>31</u>, wherein <u>designating</u> the <u>identified</u> ~~second~~ component parameter <u>is designated</u> to be the service parameter <u>includes designating</u> <u>the second component parameter to be the service parameter</u> in response to determining that the <u>respective</u> influence that the second component parameter has on the service parameter is greater than <u>respective</u> influence that the first component parameter has on the service parameter.

42-45. (**Cancelled**)

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46.   (**Proposed Amended**)   A device readable medium holding device executable instructions for executing a method of providing service analysis in service level management, the method comprising:

providing a service over a network having a plurality of network components that support the service, wherein performance of the service depends upon performances of the plurality of network components that support the service, and wherein the service has a state that represents the performance of the service;

measuring a plurality of component parameters for the plurality of network components that support the service across a plurality of domains of the network, wherein the plurality of component parameters measure performances of the plurality of network components that support the service;

determining the state of the service from the plurality of ~~measured~~ component parameters measured across the plurality of domains of the network, wherein determining the state of the service includes mapping the plurality of ~~measured~~ component parameters measured across the plurality of domains of the network to a service parameter that represents the state of the service, and wherein the state of the service indicates whether the service conforms to an agreed upon service level identified in a service level agreement; ~~and~~

executing one or more data mining algorithms ~~that~~ to discover a respective ~~influences~~ influence that a first one ~~each~~ of the ~~plurality of~~ measured component parameters in a first domain of the plurality of domains of the network has ~~have~~ on the service parameter~~, wherein the respective influences represent relationships between the state of the service and the plurality of network components that support the service~~;

executing the one or more data mining algorithms to discover a respective influence that a second one of the measured component parameters in a second domain of the plurality of domains of the network has on the service parameter;

identifying one of the first component parameter or the second component parameter that has a greatest influence on the service parameter based on the respective influences that the first component parameter and the second component parameter have on the service parameter; and

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designating the identified component parameter to be the service parameter.

47-48. (Cancelled)

49.   (Previously Presented)   The medium of claim 46, wherein the service parameter represents one or more of a response time for one or more of the plurality of network components, traffic congestion in a selected portion of the network, availability for one or more of the plurality of network components, reliability for one or more of the plurality of network components, security for one or more of the plurality of network components, performance for one or more of the plurality of network components, or a configuration for one or more of the plurality of network components.

50.   (Previously Presented)   The medium of claim 46, wherein a plurality of monitoring agents are configured to measure the plurality of component parameters for the plurality of network components that support the service.

51.   (Proposed Amended) The medium of claim 50, wherein the method further comprises the plurality of monitoring agents are configured to measure a subset of the plurality of component parameters in a respective domain of [[a]] the plurality of domains of the network.

52.   (Proposed Amended) The medium of claim 46, wherein the method further comprises integrating the plurality of domains into a service level management domain that comprises a [[a]] hierarchical structure for the plurality of domains.

53.   (Proposed Amended) The medium of claim 46, wherein[[,]] designating the method identified component parameter to be the service parameter includes further comprises:
    designating the [[a]] first one of the plurality of component parameter parameters to be the service parameter[[;]]

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~~analyzing~~ in response to determining that the respective ~~influences~~ influence that ~~each of~~ the first ~~plurality of measured~~ component parameter has ~~parameters have~~ on the service parameter is greater than ~~to manage the service; and~~

~~designating a second one of the plurality of component parameters to be the service parameter in response to analyzing~~ the respective ~~influences~~ influence that the second ~~plurality of measured~~ component ~~parameters have~~ parameter has on the service parameter.

54.   {Cancelled}

55.   **(Proposed Amended)**   The medium of claim [[53]] 46, wherein designating the identified ~~second~~ component parameter ~~is designated~~ to be the service parameter includes designating the second component parameter to be the service parameter in response to determining that the respective influence that the second component parameter has on the service parameter is greater than the respective influence that the first component parameter has on the service parameter.

56-58. **(Cancelled)**

59.   **(Previously Presented)** The method of claim 31, wherein the one or more data mining algorithms are executed while the plurality of network components are operating to support the service.

60.   **(Previously Presented)** The method of claim 31, wherein the one or more data mining algorithms include a neural network algorithm that comprises:

identifying a case library that includes a plurality of cases representing episodes of problem solving;

applying a plurality of relevance rules to identify one or more of the cases in the case library that are relevant to discovering the respective influences for the plurality of measured component parameters; and

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adapting one or more solutions variables associated with the identified cases using parameterized adaption logic to discover the respective influences that each of the plurality of measured component parameters have on the service parameter.

61.   (**Previously Presented**) The method of claim 31, wherein the one or more data mining algorithms include a decision tree algorithm that comprises producing a decision tree that represents the respective influences that each of the plurality of measured component parameters have on the service parameter.

62.   (**Previously Presented**) The method of claim 61, wherein the decision tree includes one or more of numeric values or binary values that represent the respective influences that each of the plurality of measured component parameters have on the service parameter.

63.   (**Previously Presented**) The method of claim 61, wherein the decision tree includes a root node that represents the service parameter, a plurality of leaf nodes that respectively represent the plurality of component parameters, and a plurality of dependencies between the root node and the plurality of leaf nodes that represent the respective influences that each of the plurality of component parameters have on the service parameter.

64.   (**Previously Presented**) The method of claim 31, wherein the one or more data mining algorithms include a top N algorithm that comprises:

    identifying a predetermined number of the plurality of measured component parameters that have a greatest influence on the service parameter; and

    producing a list that includes the identified component parameters having the greatest influence on the service parameter, wherein the identified component parameters are listed in a decreasing order of the respective influences that the identified component parameters have on the service parameter.

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65.   (**Previously Presented**) The method of claim 31, wherein the one or more data mining algorithms include a rule induction algorithm that comprises producing one or more rules that represent the respective influences that one or more of the plurality of measured component parameters have on the service parameter.

66.   (**Previously Presented**) The method of claim 65, wherein the one or more rules include one or more of propositional statements or quantified statements that represent the respective influences that the one or more component parameters have on the service parameter.

67.   (**Previously Presented**) The method of claim 36, wherein the one or more data mining algorithms include an inductive logic algorithm that comprises:

incorporating knowledge relating to the plurality of domains of the network and knowledge relating to the plurality of measured component parameters within a rule base;

inferring the respective influences that each of the plurality of measured component parameters have on the service parameter using the knowledge incorporated within the rule base; and

producing one or more of propositional statements or quantified statements that express the respective influences that one or more of the plurality of component parameters have on the service parameter.

68.   (**Previously Presented**) The method of claim 31, wherein the one or more data mining algorithms include a fuzzy logic algorithm that comprises:

translating the plurality of measured component parameters into a plurality of respective fuzzy concepts;

determining grades of membership that the measured component parameters have in the respective fuzzy concepts, wherein the grades of membership quantify transitions between a plurality of states in a state transition graph; and

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inferring the respective influences that each of the plurality of measured component parameters have on the service parameter from the grades of membership that the measured component parameters have in the respective fuzzy concepts.

69.   (**Previously Presented**) The medium of claim 46, wherein the one or more data mining algorithms include a neural network algorithm that comprises:

identifying a case library that includes a plurality of cases representing episodes of problem solving;

applying a plurality of relevance rules to identify one or more of the cases in the case library that are relevant to discovering the respective influences for the plurality of measured component parameters; and

adapting one or more solutions variables associated with the identified cases using parameterized adaption logic to discover the respective influences that each of the plurality of measured component parameters have on the service parameter.

70.   (**Previously Presented**) The medium of claim 46, wherein the one or more data mining algorithms include a decision tree algorithm that comprises producing a decision tree that represents the respective influences that each of the plurality of measured component parameters have on the service parameter.

71.   (**Previously Presented**) The medium of claim 70, wherein the decision tree includes one or more of numeric values or binary values that represent the respective influences that each of the plurality of measured component parameters have on the service parameter.

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72.   (**Previously Presented**) The medium of claim 70, wherein the decision tree includes a root node that represents the service parameter, a plurality of leaf nodes that respectively represent the plurality of component parameters, and a plurality of dependencies between the root node and the plurality of leaf nodes that represent the respective influences that each of the plurality of component parameters have on the service parameter.

73.   (**Previously Presented**) The medium of claim 46, wherein the one or more data mining algorithms include a top N algorithm that comprises:

        identifying a predetermined number of the plurality of measured component parameters that have a greatest influence on the service parameter; and

        producing a list that includes the identified component parameters having the greatest influence on the service parameter, wherein the identified component parameters are listed in a decreasing order of the respective influences that the identified component parameters have on the service parameter.

74.   (**Previously Presented**) The medium of claim 46, wherein the one or more data mining algorithms include a rule induction algorithm that comprises producing one or more rules that represent the respective influences that one or more of the plurality of measured component parameters have on the service parameter.

75.   (**Previously Presented**) The medium of claim 74, wherein the one or more rules include one or more of propositional statements or quantified statements that represent the respective influences that the one or more component parameters have on the service parameter.

76.   (**Previously Presented**) The medium of claim 51, wherein the one or more data mining algorithms include an inductive logic algorithm that comprises:

        incorporating knowledge relating to the plurality of domains of the network and knowledge relating to the plurality of measured component parameters within a rule base;

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inferring the respective influences that each of the plurality of measured component parameters have on the service parameter using the knowledge incorporated within the rule base; and

producing one or more of propositional statements or quantified statements that express the respective influences that one or more of the plurality of component parameters have on the service parameter.

77.   (**Previously Presented**) The medium of claim 46, wherein the one or more data mining algorithms include a fuzzy logic algorithm that comprises:

translating the plurality of measured component parameters into a plurality of respective fuzzy concepts;

determining grades of membership that the measured component parameters have in the respective fuzzy concepts, wherein the grades of membership quantify transitions between a plurality of states in a state transition graph; and

inferring the respective influences that each of the plurality of measured component parameters have on the service parameter from the grades of membership that the measured component parameters have in the respective fuzzy concepts.

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REMARKS

Upon entry of the foregoing Proposed Amendment, claims 31, 34-37, 39, 41, 46, 49-53, 55, and 59-77 would be pending in the application. Claims 31, 36-37, 39, 41, 46, 51-53, and 55 would be amended. No claims would be cancelled or newly added. Applicant believes that this Proposed Amendment would not add new matter. In view of the foregoing Proposed Amendment and the following Remarks, allowance of all the pending claims is requested.

EXAMINER INTERVIEW

In a telephonic discussion with the Examiner on October 26, 2009, the Examiner proposed amending the claims as indicated above to place the application in condition for allowance. As such, the Examiner is hereby authorized to enter the foregoing Proposed Amendment for the sole purpose of placing the application in condition for allowance. Notice to that effect is respectfully requested.

In addition, Applicant notes that during the telephonic discussion with the Examiner, the Examiner indicated that a terminal disclaimer will be required with respect to U.S. Patent No. 7,600,007, co-pending U.S. Patent Application Serial No. 09/577,231, and co-pending U.S. Patent Application Serial No. 09/577,224. As such, Applicant will file a terminal disclaimer to this effect in due course to obviate any potential non-statutory double patenting rejections.

Furthermore, Applicant notes that the filing of a terminal disclaimer to obviate a potential rejection based on non-statutory double patenting does not constitute an admission of the propriety of the potential rejection. *See Quad Environmental Technologies Corp. v. Union Sanitary District*, 946 F.2d 870 (Fed. Cir. 1991).

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CONCLUSION

Having addressed each of the issues raised by the Examiner during the telephonic discussion with the Examiner on October 26, 2009, it is respectfully submitted that the application is in condition for allowance. Notice to that effect is respectfully requested.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Date: **October 26, 2009**   Respectfully submitted,

By: _____

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Registration No. 58,780

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